

**Staff
Summary
Report**



**To: Mayor and City Council
Through: City Manager**

**Agenda Item Number
Meeting Date: August 1, 2002**

SUBJECT: Wildlife Management Contract Renewal

PREPARED BY: Chris Anaradian, Rio Salado Manager, (x2204)

REVIEWED BY: Jan Schaefer, Economic Development Director, (x8036)

BRIEF: Request approval to extend the Intergovernmental Agreement with the U.S. Department of Agriculture, Wildlife Services Division for fiscal year 2002/2003.

COMMENTS: **RIO SALADO (0112-07-03)** Request authorization for the Mayor to enter into an Intergovernmental Agreement with the U. S. Department of Agriculture, Wildlife Services Division for the purposes of extending an existing contract to provide Wildlife Management Assistance for the Rio Salado Project.

Document Name: (20020801contr.doc) Supporting Documents: Yes

SUMMARY: Tempe, as part of a wildlife management plan, participates in daily monitoring and management of wildlife in Tempe (within the five-mile radius of the airport) and has direct access to Federal resources in the event that hazardous or other special wildlife situations are identified.

Based on risk management issues, and desire to advance the Army Corps of Engineers restoration project, the Council entered into an Intergovernmental Agreement with the U.S. Department of Agriculture, Wildlife Services Division in December of 1999. The agreement provides a Wildlife Biologist to assist staff in reducing wildlife hazards within the Rio Salado Project. The City of Phoenix also entered into a similar agreement providing 1/3 funding along with 1/3 from the Federal Government.

This request before Council is to renew an agreement for a full twelve-(12) month period, concurrent with the City's fiscal budget year, beginning on July 1, 2002 and ending June 30, 2003. The funding for this contract is available under our current budget. No new budget request is required.

Wildlife Services will furnish a Wildlife Biologist to provide the following services:

- Monitor and reduce Wildlife Aircraft Strike Hazards around Town Lake. (In the past 12 months they have done weekly bird and mammal surveys.)

- Identified Recommendations for change and operational management to reduce wildlife hazards.
- Media relations related to wildlife issues. (In the last 12 months Wildlife Services presented Wildlife aircraft hazard issues to minority students touring on Town Lake.)
- Staff and Ranger training for additional wildlife monitoring of the area. (In the past 12 months a three-hour seminar was provided for all Rio Salado staff and Rangers.)
- Retrieval of live, injured and dead native wildlife. (In prior years coyote, beavers, feral dogs and cats have been relocated.)
- Relocation of non-native species. (This spring a brown pelican was captured and removed for rehabilitation and future relocation to California.)
- Vector control recommendations. (In the past 12 months methods to prevent pigeon roosting have been reviewed and implemented, where possible.)
- Animal autopsy. (Wildlife Services offered to provide autopsy on pigeons found dead in Town Lake.)
- Detailed review of Town Lake projects to minimize features that would attract birds. (In the past 12 months the design plans for the Town Lake Marina, South Bank Linear Park, Splash Playground, North Bank Landscape Improvements, Tempe Center for the Arts, Phoenix/East Valley Light Rail Bridge (attached) and Indian Bend Wash Habitat Improvement projects have been reviewed by Wildlife Services.)
- Quarterly Reports. (See quarterly report attached)

Because Wildlife Services staff is familiar with the wildlife present and involved in wildlife management, they have defended Tempe's program in many bird-strike incidents at Sky Harbor Airport. Tempe has benefited from the wildlife management program with Wildlife Services.

Staff believes that the continued retention of a wildlife biologist trained specifically in identifying aviation hazards, provides the greatest degree of safety to the public while supporting the restoration of wildlife habitat in the Salt River. The Tempe share of the project cost is \$25,000 annually to include the cost of salary, benefits, travel, transportation, equipment, supplies, and administrative overhead. A remaining \$50,000 is funded equally between the City of Phoenix and the Federal Government.

FISCAL NOTE: Sufficient funds required for this program are available within the Rio Salado Consultant Services Account 65-926435.

RECOMMENDATION: That the City Council authorize the Mayor to renew an Intergovernmental Agreement with the U.S. Department of Agriculture, Wildlife Services Division to provide a wildlife biologist, trained in aviation hazards to assist the staff in implementing a wildlife management plan for Rio Salado. Term of the agreement to be one year beginning on July 1, 2002.

INTERGOVERNMENTAL AGREEMENT NO. _____

This Intergovernmental Agreement ("Agreement") is entered into pursuant to Arizona Revised Statutes ("A.R.S.") Section 11-952 between the City of Tempe ("City") and the United States Department of Agriculture, Animal and Plant Health Inspection Service, Wildlife Services ("WS").

RECITALS

A. WS is authorized by the Animal Damage Control Act of March 2, 1931, as amended [7 U.S.C. 426-426(c)], to provide assistance to and cooperate with states, individuals, public and private agencies, organizations, and institutions in the control of predatory animals injurious to agriculture, animal husbandry, and wild game animals; and to suppress wildlife diseases such as rabies. In addition, WS is further authorized under the Rural Development, Agriculture, and Related Agencies Appropriations Act of 1988 (P.L. 100-202), to manage nuisance mammals and bird species that are reservoirs for zoonotic diseases, and to deposit any monies collected under any such agreement into the appropriation accounts that incur the costs to be available immediately and to remain available until expended for wildlife damage management activities. WS is also authorized under the terms of the Master Project Agreement with the Arizona Department of Agriculture, Animal Services Division, to enter into supplemental agreements with Arizona counties, cities, agriculture, irrigation, trade, and sportsmen's associations, industries, other state and federal agencies, Native American Tribes, and individuals.

B. The City is empowered by the City Charter, Chapter II, Section 2(i), to enter into this Agreement and has by Resolution No. 99.68 resolved to enter into this Agreement and has authorized the undersigned to execute this Agreement on behalf of the City.

C. The City is empowered to enter into this Agreement pursuant to A.R.S. § 11-952.

D. The City desires to obtain, and WS desires to provide, the consultant services described herein for the Town Lake area in Tempe, Arizona.

NOW, THEREFORE, the parties agree as follows:

1. PURPOSE OF AGREEMENT

The purpose of this Agreement is to undertake a program for the management of damage caused by wild or feral mammals or birds on properties under the City's control or jurisdiction. The WS State Director will coordinate efforts to manage aircraft hazards caused by wildlife through employment of a Wildlife Biologist assigned to the project. A

Wildlife Biologist, certified in airport operations, will implement an integrated wildlife hazard management plan utilizing all available non-lethal and lethal management techniques to reduce threats to air safety.

2. **DESCRIPTION OF SERVICES**

WS will furnish a Wildlife Biologist, trained and certified in wildlife hazard management at airports, to implement operational controls to monitor and reduce Wildlife Aircraft Strike Hazards around Town Lake.

3. **TERM OF AGREEMENT**

This Agreement will constitute the Work/Budget Plan for the period of July 1, 2002, through June 30, 2003.

4. **PAYMENT OF AMOUNT**

A. The City agrees to pay for actual costs incurred by WS in providing direct program support, not to exceed \$25,000. Such expenses may include, but not be limited to: salary/benefits, travel, transportation, supplies, equipment, and administrative costs. An estimated itemization of expenses is listed below. However, funds may be distributed to other categories if required.

Salary/Benefits	\$20,250
Travel	500
Transportation	3,000
Supplies/Equipment	<u>+ 1,250</u>
TOTAL	<u>\$25,000</u>

B. A Statement of Services will be prepared by WS and sent to the City quarterly. Payment will be made within 30 days of receipt of each billing.

C. In accordance with the Debt Collection Improvement Act (DCIA) of 1996, bills issued by WS are due and payable within 30 days of receipt. The DCIA requires that all debts older than 120 days be forwarded to debt collection centers or commercial collection agencies for more aggressive action. Debtors have the option to verify, challenge, and compromise claims, and have access to administrative appeals procedures which are both reasonable and protect the interests of the United States.

5. **REPORTS**

WS will provide the City with an annual report covering the full year's activities. All reports, information data, plans and other materials prepared by WS in performance of this Agreement shall be acknowledged as having been funded in part by the City. WS shall retain title and the City shall have full and complete rights to reproduce, duplicate, disclose, perform, and otherwise use all information prepared under this Agreement.

6. **AVAILABILITY OF FUNDS**

This Agreement shall be contingent upon the availability of funds and manpower appropriated by the Congress of the United States, the State of Arizona, and funds available to the City for the purposes of this Agreement.

7. **SEPARATE AGREEMENTS**

Nothing in this Agreement shall prevent any other state, agency, organization, or individual from entering into separate agreements with WS for the purpose of wildlife damage management.

8. **CONGRESS**

Pursuant to Section 22, Title 41, United States Code of Federal Regulations, no member of or delegate to Congress shall be admitted to any share or part of this Agreement or to any benefit to arise there from.

9. **WILDLIFE DAMAGE MANAGEMENT ACTIVITIES**

All wildlife damage management activities will be conducted in accordance with applicable Federal, State and local laws and regulations.

10. **TERMINATION**

Each party shall have the right to terminate this Agreement by mailing the other party written notice of termination by certified mail, return receipt requested, at least sixty (60) days prior to the effective date of said termination. In the event this Agreement is canceled by the City, the City shall remain responsible for payment to WS for all work performed through the date of termination.

11. **ASSIGNMENT AND DELEGATION**

Neither party may assign any rights or obligations hereunder without the express, written, prior consent of the other party.

12. **CONFLICT OF INTEREST**

The parties acknowledge that this Agreement is subject to cancellation provisions pursuant to A.R.S. § 38-511, the provisions of which are incorporated.

13. **INSPECTION AND AUDIT**

All books, accounts, reports, files and other records relating to this Agreement shall be kept for five (5) years after termination of this Agreement, and shall be subject at all times to inspection and audit by either party. Such records shall be produced at the requesting party's principal office within a reasonable time after their request.

14. **ENTIRE AGREEMENT**

This Agreement contains the entire understanding of the parties hereto. There are no representations or provisions other than those contained herein. Any amendment or modification of this Agreement shall be made only in writing and signed by both parties.

15. **INVALIDITY OF PART OF THIS AGREEMENT**

The parties agree that should any part of this Agreement be held to be invalid or void, the remainder of the Agreement shall remain in full force and effect and shall be binding upon the parties.

16. **DISCRIMINATION CLAUSE**

No person in the United States shall, on the ground of race, color, national origin, sex, age, religion, political beliefs, or disability, be excluded from participation in, be denied the benefits of, or be otherwise subjected to discrimination under any program or activity for which the recipient receives Federal financial assistance. Not all prohibited bases apply to all programs.

17. **INDEMNITY PROVISION**

WS will hold the City harmless from any liability arising from the negligent act or omission of a government officer or employee acting within the scope of his or her employment to the extent compensation is available pursuant to the Federal Tort Claims Act (FTCA), 28 U.S.C. 2761 et seq., except to the extent that aforesaid liability arises from the negligent act or omissions of the City, its employees, agents or subcontractors(s). Such relief shall be provided pursuant to the procedures set forth in the FTCA and applicable regulations.

18. **NOTICES**

Any and all notices, requests or demands given or made upon the parties hereto, pursuant to or in connection with this Agreement, unless otherwise noted, shall be delivered in person or sent by United States Mail, postage prepaid, to the parties at their respective addresses as indicated below:

If to City: Rio Salado Project Manager
 City of Tempe
 P.O. Box 5002
 Tempe, Arizona 85280
 Telephone: (480) 858-2188

If to WS: State Director
 USDA, APHIS, Wildlife Services
 2224 W. Desert Cove Ave., Suite 209
 Phoenix, Arizona 85029
 Telephone: (602) 870-2081

19. INDEPENDENT CONTRACTOR STATUS

The parties agree that WS is providing the services under this Agreement on a part-time and/or temporary basis and that the relationship created by this Agreement is that of employer and independent contractor. Neither WS nor any of WS' agents, employees or helpers shall be deemed to be the employee, agent, or servant of the City. City is interested in only the results obtained under this Agreement; the manner, means and mode of completing the same are under the sole management of WS.

20. FISCAL YEAR CLAUSE

The parties recognize that the continuation of this Agreement after the close of any given fiscal year of the City, which fiscal years end on June 30 of each year, shall be subject to the approval of the budget of the City providing for or covering this item as an expenditure therein. The City does not represent that said budget item will be actually adopted, said determination being the determination of the City Council at the time of the adoption of the budget. The City agrees to recommend inclusion of this item in each applicable budget during the term of this Agreement.

21. GOVERNING LAW

This Agreement shall be construed under Federal and State law and shall incorporate by reference all laws governing the interagency agreements and mandatory contract provisions required by statute.

22. AUTHORITY

This Agreement is in proper legal form and is within the powers and authority granted under the laws of the State of Arizona to those parties represented by undersigned legal counsel.

IN WITNESS WHEREOF, the parties have executed this Agreement on the date(s) shown below.

CITY OF TEMPE

By: _____
Mayor

Date: _____

ATTEST:

City Clerk

APPROVED AS TO FORM:

City Attorney

U.S. DEPARTMENT OF AGRICULTURE,
APHIS, WILDLIFE SERVICES

By: _____
State Director

Date: _____

By: _____
Director, Western Region

Date: _____



United States
Department of
Agriculture

Animal and
Plant Health
Inspection
Service

Wildlife Services

2224 W. Desert Cove Ave.
Suite 209
Phoenix, AZ 85029
(602) 870-2081

February 11, 2002

Mr. Wulf Grote
Project Director
Regional Public Transportation Authority
411 North Central Avenue, Suite 200
Phoenix, AZ 85004

Re: Submission of comments formally in writing on the Central Phoenix/East Valley Light Rail Transit Project Draft Environmental Impact Statement.

Dear Mr. Grote:

Thank you for the opportunity to attend the January 28, 2002, public hearing and review the Draft Environmental Impact Statement (DEIS) for the Central Phoenix/East Valley Light Rail Transit Project (Project). Wildlife Services (WS) is a division of the U.S. Department of Agriculture-Animal and Plant Health Inspection Service, whose mission is to resolve conflicts between wildlife and people. One of the roles of WS is to assess wildlife conflicts at/around airports and improve safety by reducing hazards associated with wildlife. To accomplish this goal, WS has entered into a Memorandum of Understanding with the Federal Aviation Administration (FAA) which designates WS as the primary authority on wildlife hazard management at airports. WS currently assists the City of Phoenix (COP) and City of Tempe in identifying potential or existing wildlife hazards to aircraft operations at the Phoenix-Sky Harbor International Airport (PHX) and recommends or implements methods to minimize any observed threats.

WS is aware that Project staff have been coordinating with COP-Aviation Department personnel regarding the potential for increasing wildlife hazards at PHX as a result of the Project. WS commends Project staff on their commitment to the safety of passengers using PHX and recommends that you mention your concerns for aviation safety in the Final Environmental Impact Statement (FEIS).

WS recommends the following comments be incorporated into the FEIS or taken into consideration during design and development of the Project:

- ➔ The bridge proposed for development over Tempe Town Lake is located along aircraft flight paths and should be designed to minimize perching, roosting, and nesting areas for wildlife (i.e., pigeons, hawks, swallows). Reducing wildlife attractants during the design phase could eliminate the need to later fit the structure with exclusionary devices (i.e., netting, metal spiking) to prevent birds from using the area. Upon review of the 3 proposed bridge designs posted at the Tempe Rio Salado Project office, WS believes the "Extrados" design would best minimize potential wildlife hazards to aircraft operations.



APHIS - Protecting American Agriculture

- ➔ Proposed Light Rail Transit alignment along Washington Street would be located within the 10,000 foot radius of PHX. WS, along with the FAA, recommends wildlife hazards be mitigated within this boundary. In addition, the COP-Aviation Department has plans for expansion of PHX, including a fourth runway along the north end of PHX, toward Washington Street. Therefore, Light Rail Transit alignment along Washington Street should be designed and constructed to minimize potential wildlife hazards at PHX, including the following:
 - ➔ Use of desert xeriscaping, wherever possible, to minimize use by wildlife considered hazardous to aircraft (see attached list of WS-recommended plants for use around airports in Maricopa County).
 - ➔ Platform stations and canopies should be designed and constructed to minimize perching, nesting, and roosting opportunities for birds such as pigeons.
 - ➔ Wherever possible, the overhead electric power system should not provide perches for hawks and other birds.
 - ➔ Retention/detention ponds should not hold water longer than 24 hours to reduce the potential for attracting water-dwelling birds near aircraft operations.
 - ➔ Bridges constructed over canals should be designed and constructed to minimize bird use.
- ➔ The proposed Maintenance and Storage Facility would be located along approach and departure corridors for aircraft using PHX. Consideration should be given to the structure of the building, landscaping, and retention/detention ponds to minimize attracting various wildlife species.

Thank you for the opportunity to comment on the DEIS for the Central Phoenix/East Valley Light Rail Transit Project. As the Project progresses, WS will be available to review design plans and make recommendations regarding structure design, landscaping palettes, retention/detention ponds, etc. for minimizing wildlife hazards to aircraft operations. If you have any questions or wish to discuss any of these items further, please contact either myself or Mr. David Bergman, State Director, at (602) 870-2081.

Sincerely,



Wendy Servoss
Wildlife Biologist

Attachment

cc:

David Bergman, WS State Director-Arizona
John Sawyer, PHX Airside Operations Manager
Sue Palmeri, PHX Planning and Development
Chris Anaradian, Tempe Rio Salado Manager
Kevin Flynn, FAA
Bill Long, FAA
Terry Phemister, Regional Public Transportation Authority

CITY OF TEMPE RIO SALADO



QUARTERLY REPORT 3rd Quarter of Fiscal Year 2002 January 1, 2002 - March 31, 2002



Prepared by:

Wendy Servoss, Wildlife Biologist
United States Department of Agriculture
Animal and Plant Health Inspection Service
Wildlife Services
2224 West Desert Cove Avenue #209
Phoenix, Arizona 85029
(602) 870-2081
Email: wendy.servoss@aphis.usda.gov

I. INTRODUCTION

The U.S. Department of Agriculture - Animal and Plant Health Inspection Service - Wildlife Services (WS) entered into an agreement with the City of Tempe to assist with the identification and reduction of potential/existing wildlife hazards along approach and departure corridors for aircraft using the Phoenix Sky Harbor International Airport (PHX). In addition to implementing wildlife management operations as necessary, wildlife monitoring is being conducted in order to assess potential wildlife hazards created as a result of changes in wildlife patterns and movements, and species diversity and abundance as the Rio Salado Project develops. Quarterly reports will be submitted to the Tempe Rio Salado Project Manager regarding the following: 1) monitoring results, including wildlife activity and potential hazards; and 2) wildlife management methods employed.

II. CONTINUED MONITORING SITES

Continued monitoring of wildlife hazards is conducted formally at 6 sites (Figure 1). These sites are located in the Salt River bed in/near areas proposed for or currently containing Rio Salado Project development. The sites are located in the following areas: 1) west of 7th Street, 2) beneath the I-10 overpass [termed I-10 Riparian Area and was also surveyed during the previous PHX Wildlife Hazard Assessment (WHA)], 3) west of Priest Drive, 4) along the western portion of Tempe's Town Lake (also surveyed during the WHA), 5) east of McClintock Drive (termed McClintock Riparian Area and was also surveyed during the WHA), and 6) southeast of the I-10 Riparian Area (termed Gravel Pit Basin). For additional information regarding wildlife abundance, diversity, and use patterns within the 5-mile radius of PHX, please refer to the PHX WHA.

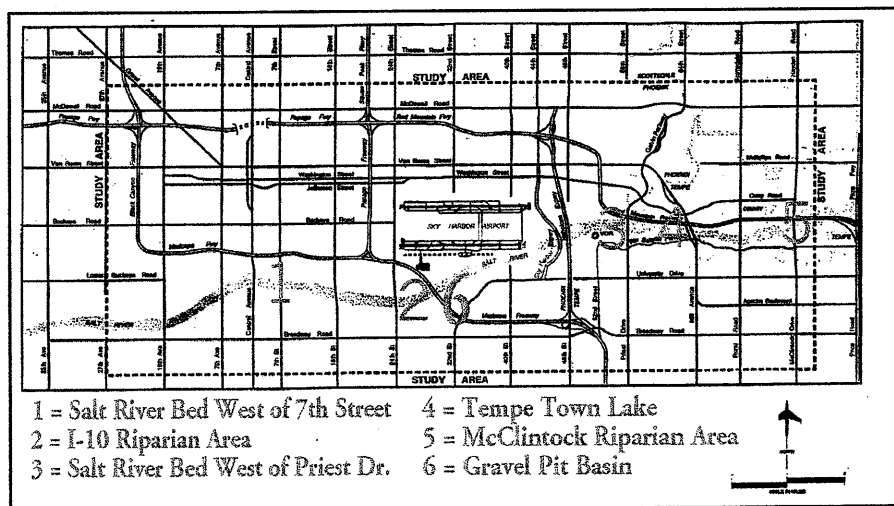


Figure 1: Sites chosen for wildlife monitoring

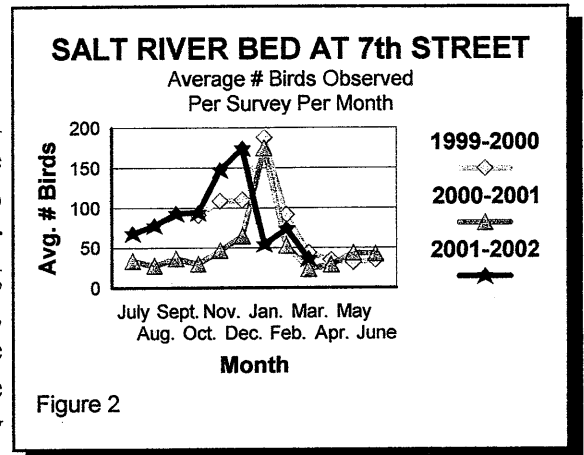
III. CONTINUED MONITORING RESULTS

Site 1

- ➔ Vegetation, trash, and debris have been removed from the entire river bed area at this site (7th Street and the Salt River bed) and standing pockets of water are no longer present. Prior to September, 2001, water pooled within a temporary diversion canal, causing aquatic strand habitat to grow in and around the canal, impeding the flow of water. During this and the previous quarters (October, 2001 - March, 2002), the temporary canal was removed and the low flow channel (LFC) was completed in this section of the

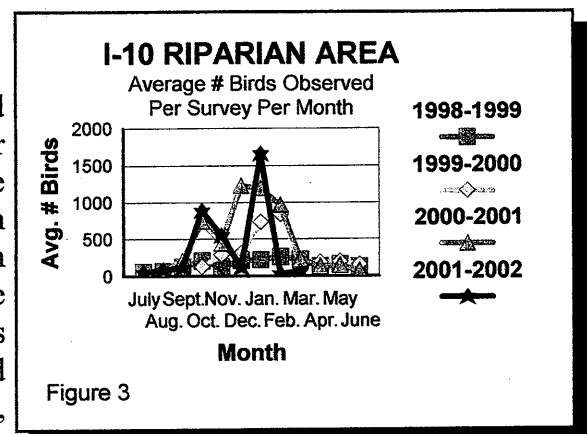
river bed. Water presently flows downstream properly through the LFC and does not appear to be attracting migratory birds, such as waterfowl. Because aquatic strand habitat grew quickly within the diversion canal, the LFC will also likely provide for habitat growth. The LFC will be monitored to ensure wildlife hazards are not created.

- ➔ With the removal of vegetation, trash, construction debris, and standing water, fewer birds were observed in this area during the January-March, 2002 quarter (Figure 2). Currently, the majority of birds using this site consist of pigeons and blackbirds. As a result of the absence of standing water and aquatic vegetation, water-dwelling birds, such as ducks, cormorants, egrets, and herons, observed during previous quarters, were rarely observed during this quarter.



Site 2

- ➔ Habitat modification (creation of a LFC and devegetation) is currently in progress in the Salt River bed between State Route (SR) 143 and the I-10 grade control structure to reduce wildlife hazards to aviation safety. Habitat is being modified under PHX's Clean Water Act Section 404 Permit. By February, 2002, the Tempe Drain, located east of the I-10 bridge, was connected to the LFC and pooling water was eliminated from this site (I-10 Riparian Area). In addition, approximately 12 acres of wetland vegetation were removed by February, 2002.



- ➔ Water-dwelling bird numbers have decreased dramatically, from approximately 110 wading birds and waterfowl in January, 2002 to one bird by March, 2002 (Figures 4 and 5). Previously, approximately 1,700 blackbirds used cattails and other vegetation at the I-10 Riparian Area for roosting during winter migration. Elimination of wetland habitat decreased blackbird numbers to 10 birds or less. After habitat was modified (by February, 2002), total

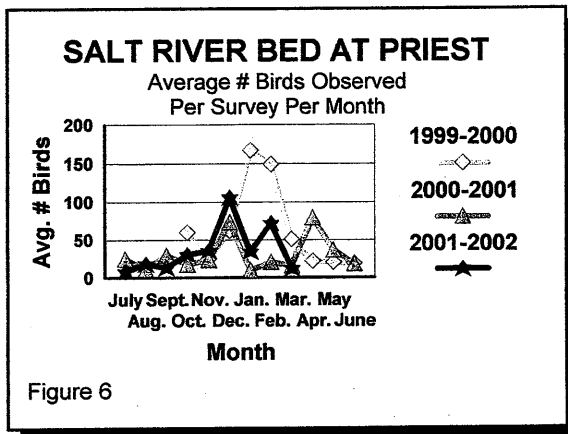
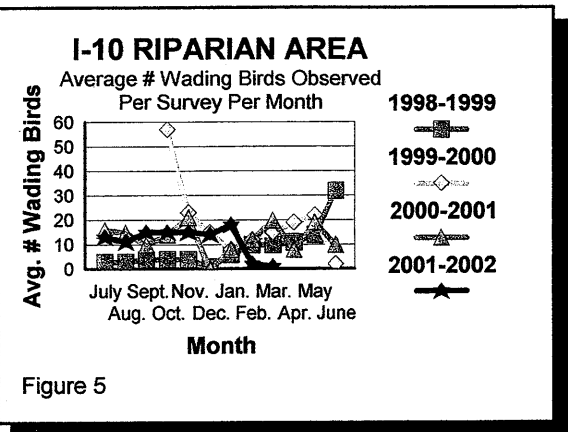
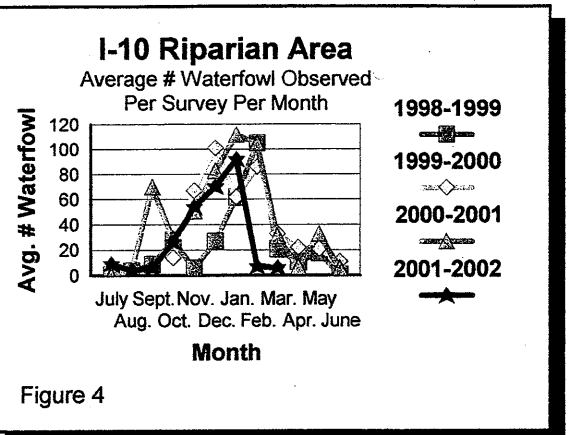
numbers of birds were lower than all other years of bird survey data (Figure 3). Habitat modification has significantly reduced bird use in this area and has thereby decreased the threat of a wildlife-aircraft collision.

- ➔ Unfortunately, the LFC for the Phoenix Reach of the Rio Salado Project does not yet connect with the PHX LFC and water has begun to pool west of the I-10 grade control structure. City of Phoenix (COP)-Rio Salado Project personnel are storing water in this area until the Phoenix Reach LFC is completed and can carry water downstream. Although vegetation has not begun to grow around this ponding water, dabbling ducks, cormorants, shorebirds, and wading birds are using this water source for feeding and loafing purposes. WS recommended channeling water downstream as soon as possible to reduce wildlife hazards.

- ➔ In addition, beavers have begun damming the lateral connecting the Tempe Drain to the LFC (see Section IV: Wildlife Management Methods). Therefore, water is beginning to pool along the south side of the Salt River bed, east of the Tempe Drain. This pooling water is allowing cattails and other aquatic vegetation to grow and waterfowl and wading birds are returning to the area. WS recommended the COP work with the AZ Department of Transportation (ADOT) on devegetating the Tempe Drain as soon as possible. Beavers will continue to inhabit the Tempe Drain unless the area is modified. As long as beavers are found in the area, beaver management is necessary to keep water flowing through the LFC and prevent water from ponding near PHX.

Site 3

- ➔ Wildlife use of the Salt River bed at Priest remains relatively low. The predominant birds using the area are mourning doves and great-tailed grackles (Figure 6). Decreased bird use of the area is mainly due to construction of the nuisance swail (March, 2000) and devegetation of the area. The nuisance swail, extending from the west end of Town Lake to the east side of SR 143, channels water downstream. The construction of the PHX LFC, starting at SR 143, connects with the nuisance swail. Prior to construction of the PHX LFC, water pooled under the SR 143 bridge, where the nuisance

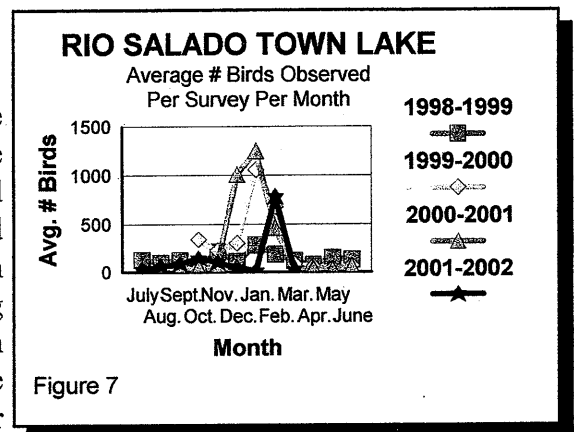


swail ended. By February, 2002, pooling water was channeled and now moves downstream past PHX.

- WS was informed that a portion of the Tempe Reach of the Rio Salado Project would extend from the west end of Town Lake to Priest. Within this section, the nuisance swail would be maintained. However, between Priest and SR 143, the nuisance swail would not be maintained by the City of Tempe. Maintaining the nuisance swail/LFC in the long term is important for minimizing wildlife hazards to aircraft. Lack of future maintenance in this portion of the river bed could create pools of standing water, attractive to hazardous bird species, within the 10,000 foot radius of PHX. WS recommends the City of Tempe work with the COP-Aviation Department and the Maricopa County Flood Control (responsible for constructing the nuisance swail) to determine future management of the nuisance swail between Priest and SR 143.

Site 4

- Total numbers of birds observed at Town Lake in the January-March, 2002, quarter were lower than in the same quarter in previous years (Figure 7). Pigeons and blackbirds were the main bird species observed at/around the lake during this quarter. The peak in bird numbers in February, 2002, was due to flocks of wintering red-winged blackbirds flying south over the lake from roosts at Papago Park. Waterfowl and wading birds are observed infrequently and in low numbers (10 birds or less).



- Currently, the lack of vegetation and other structures surrounding the lake and the lake's design (i.e., steep sides, concrete sides and lack of aquatic vegetation) continue to dissuade large populations of wildlife from utilizing the area. However, various developments are proposed for construction around Town Lake, including a performing arts center, marinas, Tempe Beach Park, and Rio Salado Project-Tempe Reach habitat. These projects may aid in attracting wildlife to Town Lake. Therefore, upon permission/request by Tempe Rio Salado personnel, WS continues to review design plans for proposed structures, landscaping, grading, and habitat around Town Lake to identify potential wildlife hazards. WS will submit recommendations as necessary so that potential wildlife hazards can be mitigated before the various projects are completed. A proactive approach to managing potential wildlife hazards, such as modifying projects during the design phase, is often more cost-effective and less labor intensive in the long term. A proactive approach often eliminates the need to conduct reactive wildlife hazard management after the project is completed (i.e., trapping and removing established populations of animals, retrofitting structures with exclusionary devices, such as netting or metal spiking, etc.)
- The U.S. Army Corps of Engineers (ACOE) and City of Tempe are currently planning the Tempe Reach of the Rio Salado Project (upstream and downstream of Town Lake and within

Indian Bend Wash), most of which falls within 5 miles from PHX runway ends along aircraft flight paths (called the general zone). Both the Federal Aviation Administration (FAA) and WS have recommended that in addition to the 10,000 foot radius of PHX, the general zone should also be designed and managed in a manner that will not support wildlife deemed hazardous to aviation. In addition to current management of Town Lake and surrounding properties, WS has recommended the ACOE and City of Tempe incorporate a proactive wildlife hazard management program into the Tempe Reach of the Rio Salado Project. The program should include, but should not be limited to, a year-long wildlife hazard assessment of the Tempe Reach, long-term monitoring of the area for wildlife hazards, a wildlife hazard management plan based on the results of the wildlife hazard assessment, and implementation of the plan by a wildlife biologist experienced in wildlife hazard management. WS believes an integrated approach, incorporating a long-term monitoring program and multiple wildlife hazard management methods is necessary for reducing the risk of a damaging wildlife-aircraft collision.

Site 5

→ The water levels at the McClintock Riparian Area are continuously changing, thereby changing the numbers and species of wildlife using the area (Figure 8). For instance, in December, 2000, Mesa stopped discharging effluent from their waste water treatment plant (WWTP) into the Salt River bed at this site. Water levels decreased immediately WS was informed, effluent from the WWTP is again being discharged into the area and water levels have risen. In addition, the Price storm drain empties into the Salt River bed at this site. Since nuisance flows, urban run-off, and storm water are dynamic, water levels fluctuate in the river bed. This water fluctuation may explain the increase in wading bird numbers as food sources (fish and invertebrates) are exposed with changing water levels (Figure 9). Statewide bird counts indicate fewer birds migrated to Arizona as a result of the mild winter. This may explain lower waterfowl numbers at the McClintock Riparian Area during winter migration this year (Figure 10).

→ The McClintock Riparian Area continues to provide feeding, nesting, and loafing habitat for an abundance and diversity of wildlife. WS considers the McClintock Riparian Area a hazard to air traffic,

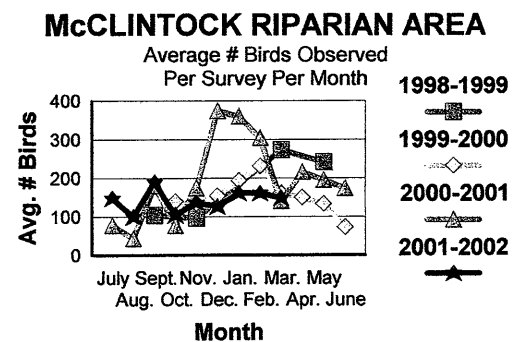


Figure 8

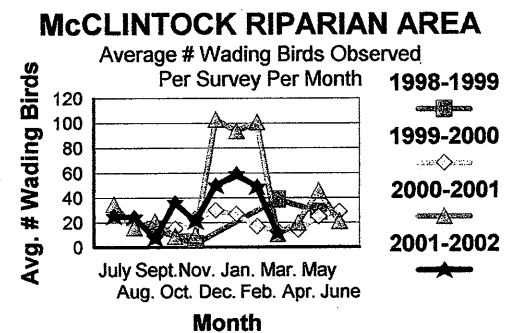


Figure 9

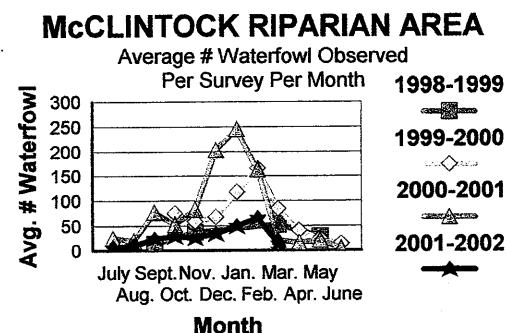
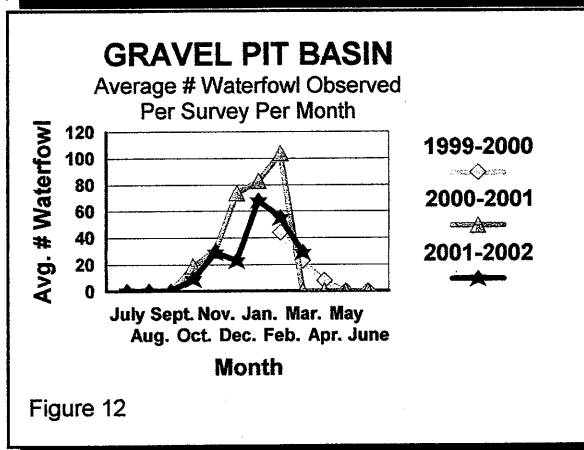
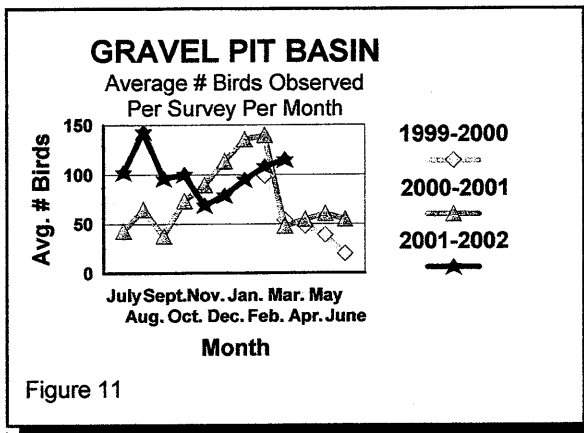


Figure 10

especially since birds fly along the Salt River bed, within aircraft flight paths, to arrive at this site. It is WS understanding that a portion of the pooling water at this site is currently being pumped around Town Lake and into the nuisance swail to prevent contamination of Town Lake from WWTP effluent. Channeling and pumping the remainder of the standing water to create a flow downstream past PHX or, at a minimum, removing the nesting islands and wetland habitat would aid in reducing numbers of birds considered hazardous to aircraft.

Site 6

- During the January-March, 2002, quarter, total bird numbers have remained relatively stable with previous years (Figure 11). The majority of birds using the site are Gambel's quail, great-tailed grackles, mourning doves, house sparrows, and waterfowl (dabbling and diving ducks, coots, and grebes).
- The WS Biologist has observed that although waterfowl numbers have decreased considerably at the former I-10 Riparian Area as a result of LFC construction and devegetation of the Salt River bed, many of these birds have moved to the Gravel Pit Basin site (also known as South Bank Lake), located directly south of the former I-10 Riparian Area (Figure 12). WS recommended contacting the owners of the Gravel Pit Basin regarding wildlife hazard management at the site.



IV. WILDLIFE MANAGEMENT METHODS

Tempe Property

- January-March, 2002: Bi-monthly, the WS Biologist conducted wildlife surveys at the 6 designated "continued monitoring" sites located within the 5-mile approach and departure corridor of PHX runways.
- January-February, 2002: The WS Biologist attended a public meeting regarding the Central Phoenix/East Valley Light Rail Transit Project. Because the light rail will be located along aircraft flight paths and a light rail bridge is proposed over Tempe Town Lake, WS provided input on designs to reduce potential wildlife hazards. In addition, WS reviewed a copy of the Draft Environmental Impact Statement for the light rail project and submitted comments to the Regional Public Transportation Authority on February 11, 2002.

- January, 2002: The WS Biologist attended 2 meetings regarding the proposed Tempe Performing Arts Center (PAC). The PAC will be located on the southwest corner of Tempe Town Lake. The WS Biologist provided input on structure design, landscaping, and grading (retention ponds, ditches, etc.) options that would minimize the creation of wildlife hazards along approach and departure flight paths. WS recommendations were also submitted in writing to the Tempe design team.
- January, 2002: Two WS Biologists attended a meeting with the ACOE and City of Tempe personnel regarding updated design plans for the Tempe Reach of the Rio Salado Project. Like the Phoenix Reach, the ACOE plans to contract with WS for multi-year monitoring and management of the Tempe Reach, in attempt to better identify and manage possible wildlife hazards created as a result of the project.
- February, 2002: The WS Biologist reviewed design plans for the Tempe Beach Park Water Playground and submitted comments regarding wildlife hazard management to the Tempe Rio Salado Manager.
- February, 2002: The WS Biologist reviewed design plans for the Tempe Town Lake Marina and submitted comments regarding wildlife hazard management to the Tempe Rio Salado Manager.
- February, 2002: The WS Biologist reviewed design plans for the Tempe Town Lake North Bank Multi-Use Path Landscape and submitted comments regarding wildlife hazard management to the Tempe Rio Salado Manager.
- February, 2002: The WS Biologist reviewed design plans for the Tempe Town Lake South Bank Linear Park and submitted comments regarding wildlife hazard management to the Tempe Rio Salado Manager.
- March, 2002: The WS Biologist attended a meeting regarding the 60 percent design submittal for the Indian Bend Wash portion of the Rio Salado Project-Tempe Reach. WS made recommendations regarding structure design and wetland pond configuration. WS recommendations will also be submitted in writing.

Neighboring Property

- January-March, 2002: Habitat was modified in the Salt River bed, between SR 143 and the I-10 grade control structure. Five designated wetland areas were devegetated and a LFC is being constructed to move pooling water downstream past PHX. Devegetation of the largest wetland area, termed the "I-10 Riparian Area" decreased wildlife activity significantly. Large flocks of blackbirds roosted in the cattails in this area and traveled the riverbed to feeding sites, daily at dawn. These roosts have been removed and flocks of blackbirds have not been observed in the area since devegetation occurred. LFC construction at the east end of the project area has allowed for connection with Tempe's nuisance swail so that water no longer pools under the SR 143 bridge. The LFC does not yet connect with the LFC being

constructed along the Phoenix Reach of the Rio Salado Project. Until the Phoenix Reach LFC is completed (proposed completion date of July, 2002), water has been pooling west of the I-10 grade control structure. In addition, the COP-Aviation Department is still in the process of obtaining easement access of a 1500 foot portion of the Salt River bed, south of the Air National Guard, to complete the LFC between SR 143 and the I-10 grade control structure. Until this portion of the LFC is completed, water delivered from upstream sections of the LFC may pool at this site.

Density of birds considered hazardous to aircraft (i.e., waterfowl, wading birds, blackbirds) has decreased considerably between SR 143 and the I-10 grade control structure as a result of devegetation and creation of a LFC. However, beavers have begun damming the lateral connecting the Tempe Drain (located east of the I-10 bridge) to the LFC (see photo below). Therefore, water is beginning to pool along the south side of the Salt River bed, east of the Tempe Drain. This pooling water is allowing cattails and other aquatic vegetation to grow and waterfowl and wading birds are returning to the area. The WS Biologist began breaking dams and setting cage traps for capturing beavers in March, 2002. Although beavers are returning to repair the dam each night, beavers have not yet been captured in the trap. WS recommends working with ADOT on devegetating the Tempe Drain as soon as possible. Beavers will continue to inhabit the Tempe Drain unless the area is modified. As long as beavers are found in the area, beaver management is necessary to keep water flowing through the LFC and prevent water from ponding near PHX. Ponding water attracts birds considered hazardous to aircraft, such as waterfowl.



- ➔ January-March, 2002: Bi-monthly, the WS Biologist conducted the Breeding Bird Survey in the Salt River bed between SR 143 and the I-10 grade control structure.
- ➔ January-March, 2002: The pigeon trapping program continues on properties located near aircraft movement areas. Flocks of pigeons flying around these properties create a hazard for aircraft. All pigeons captured are being euthanized and donated to the AZ Game and Fish Department's wildlife rehabilitation center to be used as food for injured/orphaned birds of prey.
- ➔ February, 2002: The WS Biologist attended The Wildlife Society's southwestern regional conference in Safford, AZ. On February 9, 2002, the WS Biologist gave a presentation regarding the use of chemical wildlife repellents (methyl anthranilate and anthraquinone) on ryegrass seed germination rates at PHX. WS wanted to study the chemicals' effects on seed germination before reseeded turf areas at PHX were sprayed to repel doves from the area. Research is ongoing as additional studies need to be conducted before chemical wildlife repellents are used as a nonlethal option for reducing dove numbers at PHX. To date, preliminary data indicates comparable germination rates for seeds treated with the control

(water; 88.6%) and anthraquinone (85.2%) applications, but very low germination rates for seeds treated with methyl anthranilate (0.6%). These preliminary results suggest that repellents containing anthraquinone may not adversely affect ryegrass seed germination and therefore have potential as a seed treatment repellent to doves.

- February, 2002: The WS State Director and WS Biologist attended the AAAE-Basic Airport Safety and Operations Specialist School (ASOS). Per request from the FAA, the WS State Director presented an overview of part 139 requirements for wildlife hazard management and the WS Biologist presented an in-depth look at a large scale wildlife hazard management program, using PHX and adjacent properties and land uses as the example. Both discussions were well-received and many questions were asked regarding air safety and the Rio Salado Project.
- February-March, 2002: Reports were received regarding flocks of sparrows roosting in trees near aircraft movement areas. After inspecting the area, the WS Biologist found "whitewashed" trees where flocks of sparrows and finches are roosting. WS recommended thinning the trees to reduce cover for roosting, removing the trees, or covering the trees with bird netting to prevent the birds from using the area.
- March, 2002: The WS Biologist noticed that a retention pond located near aircraft movement areas retained water for several days after rainfall. WS has recommended that retention/detention ponds, including this pond, percolate water within 24 hours to reduce the possibility of attracting birds near aircraft movement areas (COP ordinances require 36 hours). Numerous studies show that retention/detention ponds, even when dry, attract greater numbers and diversity of wildlife than areas without these ponds. Shallow, pooling water may attract additional dabbling ducks, such as the flock of northern pintails struck by Mesa Airlines on February 21, 2002, herons, egrets, blackbirds, and many other species within close proximity to aircraft operations. WS recommended ensuring ponds percolate water within a timely fashion. If this is not feasible, other wildlife management methods should be utilized (i.e., netting, propane cannons, plastic bird balls, etc.).
- March, 2002: A burrowing owl was observed living in a drainage pipe adjacent to aircraft movement areas. Burrowing owls are attracted to the open spaces on airfields and often establish large colonies. Removing this owl before a colony is established would help reduce possible wildlife hazards at PHX. The WS Biologist set cage traps for the owl; however, after 3 days of trapping, the owl moved to a new location. WS recommended plugging drainage pipes with dirt or rocks or capping the ends of the pipes to prevent wildlife from inhabiting them in the future.
- March, 2002: Flocks of great-tailed grackles were observed perching on buildings and flying over the airfield during morning hours. The WS Biologist observed several trees, located near aircraft operations, to be grackle roosts. Just before dawn, flocks of grackles begin vocalizing then leave their roosts and fly over the airfield to locations outside PHX or perch in flocks on nearby buildings. The thick growth on these trees allows optimal cover for grackles. WS recommended converting landscaping to native desert xeriscape. If this option

is not feasible, trees around aircraft movement areas should be thinned considerably to reduce roosting areas.

- March, 2002: The WS Biologist was informed that a new development is being constructed and landscaping is being planted on a neighboring property, located along aircraft flight paths. Modifying projects (i.e., structures, retention ponds, ditches, and landscaping and other habitat) during the design phase is often more cost-effective and less labor-intensive than reactive wildlife measures (i.e., trapping, installing spiking or netting on buildings, harassment devices). WS recommended all planned landscaping within the 10,000 ft. radius of PHX incorporate the WS-Recommended Plant List. Design plans for all construction within the 10,000 ft. radius of PHX should be reviewed with regard to potential wildlife hazards so that changes may be implemented before the site is developed.
- March, 2002: The WS Biologist received reports of jackrabbits inhabiting areas near aircraft operations. Rabbits are considered a secondary hazard as they may attract larger animals, such as hawks and coyotes, to the area. Two cage traps were set and baited daily with lettuce. To date, rabbits have not been captured; however, traps will continue to be set as long as rabbits are observed in the area. Alternative methods are available for managing rabbit populations along aircraft movement areas. These options should be considered as trapping continues to be inefficient/ineffective.

V. SUMMARY

WS commends the City of Tempe on their continued commitment to aviation safety. The City of Tempe has worked to provide WS with information on planned/proposed developments along aircraft flight paths in an effort to proactively manage potential wildlife hazards to aircraft. WS recommends continued submittal of design plans for City of Tempe projects to WS for review. WS also recommends discussing the wildlife hazard issue with developers of properties being constructed around Town Lake and in other areas along the Salt River bed (i.e., Hayden Ferry). Upon City of Tempe request, WS is available to discuss wildlife-related issues with these developers.

In an effort to facilitate the flow of water downstream past PHX, WS recommends working with the COP-Aviation Department on future management of the nuisance swail/low flow channel. Because the Tempe Reach of the Rio Salado Project will end at Priest, WS is concerned the Priest-SR 143 portion of the nuisance swail will not be managed in the long term.